

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

Art Unit: 2154

Examiner: Patel, Ashokkumar B.

Serial No. 09/922,175

Filed: August 1, 2001

In Re Application of: James E. Kracht

For: IDENTIFYING MODULAR CHASSIS COMPOSITION BY USING
NETWORK PHYSICAL TOPOLOGY INFORMATION

BRIEF ON APPEAL

Director of Patents
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Sirs:

This is an Amended Brief on Appeal for consideration by the Board of Patent Appeals and Interferences (“*Board*”) of the Final Office Action, dated May 1, 2006, rejecting all of the claims of the present application. A timely Notice of Appeal was filed on September 1, 2006. This Amended Appeal Brief is filed in response to the Notification of Non-Compliant Appeal Brief mailed October 26, 2007.

I. REAL PARTY IN INTEREST

The only real party in interest regarding the present application is Cisco Technology, Inc., a California Corporation, assignee of the present application.

II. RELATED APPEALS AND INTERFERENCES

To the best of Appellants’ knowledge, there are no appeals or interferences that will directly affect or be directly affected by or have a bearing upon the Board’s decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-35 were pending in the application. Claims 6-11, 17, 18, 23, 24, and 30-35 were withdrawn. Claim 12 was cancelled. Claims 1-5, 13-16, 19-22, and 25-29 remained pending in the application. Claims 1-5, 13-16, 19-22, and 25-29 were rejected under 35 U.S.C. § 102(e) as being unpatentable over Fee, et al. (U.S. 2003/0069874 A1). Claims 1-5, 13-16, 19-22, and 25-29 are on appeal.

IV. STATUS OF AMENDMENTS

There were no amendments filed subsequent to the Final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is directed towards a method for identifying internal occupants of a communications system chassis with an Ethernet backplane and at least one internal occupant (Claim 1); a communications system apparatus (Claim 13); an apparatus for identifying internal occupants of a communications system apparatus with an Ethernet backplane (Claim 19); and a program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method in Claim 1 (Claim 25). Independent claims 19 and 25 have similar elements and limitations to Claim 1, and will be treated here together in the manner of method Claim 1.

The method (Claim 1) comprises: verifying that a system switch processor ("SSP") (FIG. 2 #220) has been assigned an IP address (FIG. 4 #420; P. 12, LL 5-17); requesting a discovery protocol data package from the SSP (FIG. 4 #430; P. 12, LL 18-19); determining whether the discovery protocol data package corresponds to at least one internal occupant (FIG. 4 #440; P. 12 L. 20 through P. 13 L. 3; FIG. 2 #210); and if the discovery protocol data package corresponds to the at least one internal occupant (FIG. 2 #210), then discovering occupant information corresponding to the at least one internal occupant (FIG. 4 #450; P. 13, LL 4-13; FIG. 2 #210).

The communications system apparatus (Claim 13) comprises: an Ethernet backplane (FIG. 2; P. 3, LL 7-9); at least one internal occupant (FIG. 2 #210) operatively

coupled to the backplane (FIG. 2); wherein the at least one occupant is configured to identify other internal occupants of the communications system and is configured to perform the steps in Claim 1 (see above for details).

The apparatus (Claim 13) for identifying internal occupants of a communications system apparatus with an Ethernet backplane (FIG. 2) and at least one internal occupant (FIG. 2 #210) comprises: a means for verifying that a system switch processor (“SSP”) (FIG. 2 #220) has been assigned an IP address (FIG. 4 #420; P. 12, LL 5-17); a means for requesting a discovery protocol data package from the SSP (FIG. 4 #430; P 12, LL 18-19); a means for determining whether the discovery protocol data package corresponds to at least one internal occupant (FIG. 4 #440; P 12 L 20 through P 13 L 3); and a means for discovering occupant information corresponding to the at least one internal occupant if the discovery protocol data package corresponds to the at least one internal occupant (FIG. 4 #450; P 13, LL 4-13).

The program storage device (Claim 25) readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method steps in Claim 1 has equivalent method steps to those Claim 1 (see above for details). Such a program storage device is well known in the art, and is not shown. This is an *in re Beauregard* claim for the method in Claim 1.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

In the Final Office Action, dated May 1, 2006, Claims 1-5, 13-16, 19-22, and 25-29 were rejected under 35 U.S.C. § 102(e) as being unpatentable over Fee, et al., U.S. patent number 6,415,314 (“*Fee*”). Applicant respectfully submits that not all elements in the rejected independent claims are found in Fee, and therefore, these claims cannot be anticipated by that prior art reference.

VII. ARGUMENT

1. The 35 U.S.C. § 102(e) rejection

In the Final Office Action, dated May 1, 2006, Claims 1-5, 13-16, 19-22, and 25-29 were rejected under 35 U.S.C. § 102(e) as being unpatentable over Fee, et al., U.S. patent number 6,415,314 (“Fee”).

With respect to claims 1, 13, 19, and 25 (all pending independent claims), Applicant respectfully submits that not all of the claimed elements in the independent claims are taught, suggested, or otherwise disclosed by Fee. For example, claim 1 of the present application reads:

(Original) In a communications system apparatus with an Ethernet backplane and at least one internal occupant, a method for identifying internal occupants comprising:

verifying that a system switch processor (“SSP”) has been assigned an IP address;

requesting a discovery protocol data package from said SSP;

determining whether said discovery protocol data package corresponds to said at least one internal occupant; and

if said discovery protocol data package corresponds to said at least one internal occupant, then discovering occupant information corresponding to said at least one internal occupant.

First, Fee does not show “*verifying that a system switch processor (“SSP”) has been assigned an IP address*”. The cited portion of Fee (Col. 6, Lines 21-23) reads “*Each module automatically assigns its own internal IP address based on its own information about the chassis in which it is installed, the slot it occupies, and the number of hosts it supports*”. No mention of testing another module, nor of waiting until the IP address is assigned. Indeed, Fee teaches away from that, since it is based on a symmetric system where all nodes participate in the DCA and do not appear to the other nodes until they

have assigned themselves an IP address. The present invention is asymmetric, as can be seen in FIG. 2, where the SSP 220 is typically distinct in both function and connectivity from the other nodes 210. Contrast this with the symmetric system in Fee as shown in FIGs. 2, 3, 5, 7, and 8. Note also starting at line 4 of page 12 of the instant disclosure describing FIG. 4, which starts with *“Once the ICS unit is booted up, the algorithm begins. At act 420, the system verifies that the SSP has been assigned an IP address. The system does not proceed to the next act until the system knows the SSP has an IP address”*. In Fee, no node waits on any other node having an IP address assigned, since no node is visible until then. And no Fee node checks to see if any other node has an IP address assigned for the same reason.

Fee further fails to teach or disclose the claimed limitation of *“requesting a discovery protocol data package from said SSP”*. Examiner has cited Fee at col. 8, lines 47-55 as disclosing this limitation. However, Fee, at col. 8, lines 47-55 reads:

5. MIB Distribution

The DCA uses MIBs to gather information about the chassis and to effect control on the chassis. A MIB is a collection of managed objects (MOs) organized into a naming (MIB) tree with each object having a unique name or identifier within the tree. The identifier is known as an OID or Object Identifier. In order for the DCA to operate as a single entity across all the modules in the chassis, all the MIBs supported by the chassis must be distributed across all the modules.

However, the Examiner has also likened the DCA to the SSA of the claimed invention, by saying that *“Fee teaches ... (the claim limitation of) verifying that a system switch processor (SSP) (col. 8 line 33-38, ‘DCA’) has been assigned an IP address (col. 6, line 21-52)”*. The examiner cannot say that the DCA of Fee is not only the SSP of the present application AND ALSO requests the discovery protocol data package from said SSP, as such a reading means that the DCA in Fee is requesting a discovery protocol data

package FROM ITSELF. Furthermore, Fee at col. 8 lines 47-55 does not describe requesting a discovery protocol data package, it merely says that the DCA uses MIBs to gather information about the chassis. If the Examiner wants to read in protocol data into this portion of Fee, or any other, and maintain a rejection based on “*information about the chassis*” necessarily means a protocol data package, Applicant respectfully requests evidence supporting such an assertion.

In response to this argument, the Examiner cited “*facts about DCA*” that again failed to describe a DCA from which information is requested, but actually described a destination module to which packets are sent, and there is no description of the packets as being a request of any sort. Thus, Applicant argues that Examiner has failed to address Applicant’s arguments.

Because Fee does not teach, suggest, nor otherwise disclose requesting a discovery data protocol package, Applicant also respectfully submits that Fee fails to teach, suggest, or otherwise disclose the claimed limitation of “*if said discovery protocol data package corresponds to said at least one internal occupant, then discovering occupant information corresponding to said at least one internal occupant*”. While the Examiner cites Fee at col. 7, lines 1-5 as disclosing this limitation, col. 7, lines 1-5 merely reads:

- Module Type
- Chassis IP address
- Chassis MAC address
- Chassis Serial number
- SMB controller status

And therefore lacks the necessary verbiage contained in the claimed limitation. Specifically, there is no disclosure in this portion of Fee or any other that describes making a determination that a said discovery protocol data package corresponds to said at least one internal occupant, AND there is no disclosure in this portion or any other portion in Fee of discovering occupant information corresponding to said at least one internal occupant once such a determination is made.

Further, the “DCA” is defined to be “*A distributed chassis agent (‘DCA’) for a network is provide which enables the chassis to be managed as a single system, and wherein any module can perform the management function or it can be performed by multiple modules simultaneously*” (Col. 2 Lines 29-33). Contrast this with an “SSP” which is defined as “*Slot 7, 220 [of FIG. 2] may be dedicated to a system switch processor (‘SSP’) which is an Ethernet switch that passes data among all cards in the ICS chassis 200 and to any other Ethernet switches connected to the system*” (P. 9, lines 12-14). The DCA is a distributed chassis agent. The SSP is a system switch processor. The former is software, and the later is hardware. They are not the same, nor are they equivalent.

Applicant respectfully submits that the Examiner failed to address these arguments above in the final Office Action mailed May 1, 2006, and continues to argue that Fee teaches a DCA in accordance with the present invention, despite the fact that Applicant has pointed out that what the Examiner considers to be a DCA serves as a destination in Fee rather than a source, from which information is requested (see Claim 1 of the present invention). Furthermore, the DCA is not an SSP. The one is a *distributed chassis agent* while the other is a *system switch processor*. There is no reason to believe, and substantial reasons to disbelieve, that they are equivalent, either physically, or functionally. Further, the DCA does not check to see if the SSP has an IP address assigned since Fee nodes only appear to the other nodes after they have assigned themselves IP addresses. Plus, the DCA being a distributed agent, does not have a single IP address, but rather each node belonging to the DCA has an IP address.

The remaining independent claims have similar limitations to independent claim 1, and should be treated similarly. Also, all the dependent claims are dependent upon claims that have these limitations.

Without particularly pointing out where a cited reference anticipates the limitations of a claim, a 35 U.S.C. § 102(e) rejection cannot be maintained.

CONCLUSION

It is respectfully urged that the Examiner has erred in the rejection Claims 1-5, 13-16, 19-22, and 25-29 under 35 U.S.C. § 102(e). The cited reference do not teach each and every element of the present application. Therefore, the Examiner has failed to make a prima facie case of lack of novelty as required by 35 U.S.C. § 102(e).

Accordingly, in view of the foregoing comments and arguments, it is respectfully requested that the Board reverses the Examiner's rejection and allows Claims 1-5, 13-16, 19-22, and 25-29 in this application.

Respectfully submitted,
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VIII. CLAIMS APPENDIX

1. (Original) In a communications system apparatus with an Ethernet backplane and at least one internal occupant, a method for identifying internal occupants comprising:

verifying that a system switch processor (“SSP”) has been assigned an IP address;

requesting a discovery protocol data package from said SSP;

determining whether said discovery protocol data package corresponds to said at least one internal occupant; and

if said discovery protocol data package corresponds to said at least one internal occupant, then discovering occupant information corresponding to said at least one internal occupant.

2. (Original) The method of Claim 1, including the additional act of determining whether said at least one internal occupant is the last internal occupant in said apparatus.

3. (Original) The method of Claim 1 further including after said query of determining whether said discovery protocol data package corresponds to said at least one internal occupant, the additional act of:

determining whether said at least one internal occupant has a valid IP address, if the discovery protocol data package corresponds to said at least one internal occupant.

4. (Original) The method of Claim 1 including the additional act of populating a data table with said at least one internal occupant’s information.

5. (Original) The method of Claim 1 wherein the act of discovering occupant information corresponding to said at least one internal occupant further comprises:

- determining whether said at least one internal occupant is a multiservice route processor;

- discovering multiservice route processor information from said at least one internal occupant, if said at least one internal occupant is a multiservice route processor;

- determining whether said at least one internal occupant is a system processing engine;

- discovering system processing engine information from said at least one internal occupant, if said at least one internal occupant is a system processing engine; and

- indicating an error for said at least one internal occupant if said at least one internal occupant is not a system processing engine.

6. (Withdrawn) In a communications system apparatus with an Ethernet backplane and at least one internal occupant, a method for cyclically identifying occupants comprising:

- requesting a link status from a SSP;

- determining whether all of said at least one internal occupant in the communications system apparatus have been discovered;

- waiting for next cycle if all of said at least one internal occupant in the communications system apparatus have been discovered;

- determining whether said link status corresponds to said at least one internal occupant, if all of said at least one internal occupant in the communications system have not been discovered;

- determining whether said link status is up and a slot corresponding to said link is not occupied, if said link status corresponds to said at least one internal occupant;

- launching a slot discovery, if said link status is up and said slot corresponding to said link is not occupied;

determining whether said link status is down and said slot corresponding to said link status is occupied, if said link status is not up and said slot is not occupied; and
identifying said at least one internal occupant as non-operational, if said link status is down and the said slot is occupied.

7. (Withdrawn) The method of claim 6 wherein the act of launching a slot discovery further comprises:

requesting a discovery protocol data package from said SSP;
determining whether said discovery protocol data package corresponds to said at least one internal occupant;

determining whether said apparatus occupant has a valid IP address, if said discovery protocol data package corresponds to said at least one internal occupant;

determining whether said requested discovery protocol data package corresponds to said slot, if said at least one internal occupant has a valid IP address; and

discovering occupant information corresponding to said particular internal apparatus occupant, if the discovery protocol data package corresponds to said slot.

8. (Withdrawn) The method of Claim 7 wherein the act of discovering occupant information corresponding to said at least one internal occupant further comprises:

determining whether said at least one internal occupant is a multiservice route processor;

discovering multiservice route processor information from said at least one internal occupant, if said at least one internal occupant is a multiservice route processor;

determining whether said at least one internal occupant is a system processing engine, if said at least one internal occupant is not a multiservice route processor;

discovering system processing engine information from said at least one internal occupant, if said at least one internal occupant is a system processing engine; and

indicating an error for said at least one internal occupant if said at least one internal occupant is not a system processing engine.

9. (Withdrawn) In a communications system apparatus with an Ethernet backplane and at least one occupant installed in at least one slot, a method for cyclically identifying occupants comprising:

- requesting a discovery protocol data package from a SSP;

- determining whether all of said at least one slot in the communications system apparatus have been discovered;

- marking said at least one slot that have no discovery protocol information as empty, then waiting for a next cycle to begin, if all of said at least one slot in the communications system apparatus have been discovered;

- determining whether said discovery protocol data package corresponds to said at least one internal occupant, if one of said at least one slot in the communications system apparatus has not been discovered

- determining whether said discovery protocol data package is consistent with a discovery protocol data package previously obtained, if the said discovery protocol data package corresponds to said at least one internal occupant; and

- launching a slot discovery, if said discovery protocol data package is not consistent with said previously obtained discovery protocol data package.

10. (Withdrawn) The method of claim 9 wherein said act of launching a slot discovery further comprises:

- requesting a discovery protocol data package from said SSP;

- determining whether said discovery protocol data package corresponds to said at least one internal occupant;

- determining whether said at least one internal occupant has a valid IP address, if the discovery protocol data package corresponds to said at least one internal occupant;

determining whether said discovery protocol data package corresponds to a slot housing said at least one occupant, if said at least one internal occupant has a valid IP address; and

discovering occupant information corresponding to said at least one internal occupant, if said discovery protocol data package corresponds to said slot.

11. (Withdrawn) The method of Claim 10 wherein said act of discovering occupant information corresponding to said at least one internal occupant further comprises:

determining whether said at least one internal occupant is a multiservice route processor;

discovering multiservice route processor information from said at least one internal occupant, if said at least one internal occupant is a multiservice route processor;

determining whether said at least one internal occupant is a system processing engine, if said at least one internal occupant is not a multiservice route processor;

discovering system processing engine information from said at least one internal occupant, if said at least one internal occupant is a system processing engine; and

indicating an error for said at least one internal occupant if said at least one internal occupant is not a system processing engine.

12. (Cancelled)

13. (Previously presented) A communications system apparatus comprising:
an Ethernet backplane;

at least one internal occupant operatively coupled to said backplane;

wherein said at least one internal apparatus occupant is configured to identify internal other occupants of said communications system wherein said at least one internal occupant is further configured to:

verify that a system switch processor (“SSP”) has been assigned an IP address;

request a discovery protocol data package from said SSP;

determine whether said discovery protocol data package corresponds to said at least one internal occupant; and

discover occupant information corresponding to said at least one internal occupant if said discovery protocol data package corresponds to said at least one internal occupant.

14. (Original) The communications system apparatus of Claim 13, wherein said at least one internal occupant is further configured to determine whether said at least one internal occupant is the last internal occupant in said apparatus.

15. (Original) The communications system apparatus of Claim 13, wherein said at least one internal occupant is further configured to determine whether said at least one internal occupant has a valid IP address, if the discovery protocol data package corresponds to said at least one internal occupant.

16. (Original) The communications system apparatus of Claim 13, wherein said at least one internal occupant is further configured to populate a data table with said at least one internal occupant’s information.

17. (Withdrawn) A communications system apparatus comprising:

an Ethernet backplane;

at least one internal occupant operatively coupled to said backplane;

wherein said at least one internal apparatus occupant is configured to:

request a link status from a SSP;

determine whether all of said at least one internal occupant in the communications system apparatus have been discovered;

wait for next cycle if all of said at least one internal occupant in the communications system apparatus have been discovered;

determine whether said link status corresponds to said at least one internal occupant, if all of said at least one internal occupant in the communications system have not been discovered;

determine whether said link status is up and a slot corresponding to said link is not occupied, if said link status corresponds to said at least one internal occupant;

launch a slot discovery, if said link status is up and said slot corresponding to said link is not occupied;

determine whether the said link status is down and said slot corresponding to said link status is occupied, if the said link status is not up and the said slot is not occupied; and

identify the said at least one internal occupant as non-operational, if the said link status is down and the said slot is occupied.

18. (Withdrawn) A communications system apparatus comprising:

an Ethernet backplane;

at least one internal occupant operatively coupled to said backplane;

wherein said at least one internal apparatus occupant is configured to:

request a discovery protocol data package from a SSP;

determine whether all of said at least one slot in the communications system apparatus have been discovered;

mark said at least one slot that have no discovery protocol information as empty, then waiting for a next cycle to begin, if all of said at least one slot in the communications system apparatus have been discovered;

determine whether said discovery protocol data package corresponds to said at least one internal occupant, if one of said at least one slot in the communications system apparatus has not been discovered;

determine whether said discovery protocol data package is consistent with a discovery protocol data package previously obtained, if the said discovery protocol data package corresponds to said at least one internal occupant; and

launch a slot discovery, if said discovery protocol data package is not consistent with said previously obtained discovery protocol data package.

19. (Original) An apparatus for identifying internal occupants of a communications system apparatus with an Ethernet backplane and at least one internal occupant comprising:

means for verifying that a system switch processor ("SSP") has been assigned an IP address;

means for requesting a discovery protocol data package from said SSP;

means for determining whether said discovery protocol data package corresponds to said at least one internal occupant; and

means for discovering occupant information corresponding to said at least one internal occupant, if said discovery protocol data package corresponds to said at least one internal occupant.

20. (Original) The apparatus of Claim 19, further comprising the additional means for determining whether said at least one internal occupant is the last internal occupant in said apparatus.

21. (Original) The apparatus of Claim 19 further comprising the additional means for determining whether said at least one internal occupant has a valid IP address, if the discovery protocol data package corresponds to said at least one internal occupant.

22. (Original) The apparatus of Claim 19 further comprising the additional means for populating a data table with said at least one internal occupant's information.

23. (Withdrawn) An apparatus for cyclically identifying internal occupants of a communications system apparatus with an Ethernet backplane and at least one internal occupant comprising:

means for requesting a link status from a SSP;

means for determining whether all of said at least one internal occupant in the communications system apparatus have been discovered;

means for waiting for next cycle if all of said at least one internal occupant in the communications system apparatus have been discovered;

means for determining whether said link status corresponds to said at least one internal occupant, if all of said at least one internal occupant in the communications system have not been discovered;

means for determining whether said link status is up and a slot corresponding to said link is not occupied, if said link status corresponds to said at least one internal occupant;

means for launching a slot discovery, if said link status is up and said slot corresponding to said link is not occupied;

means for determining whether the said link status is down and said slot corresponding to said link status is occupied, if the said link status is not up and the said slot is not occupied; and

means for identifying the said at least one internal occupant as non-operational, if the said link status is down and the said slot is occupied.

24. (Withdrawn) An apparatus for cyclically identifying internal occupants of a communications system apparatus with an Ethernet backplane and at least one internal occupant comprising:

means for requesting a discovery protocol data package from a SSP;

means for determining whether all of said at least one slot in the communications system apparatus have been discovered;

means for marking said at least one slot that have no discovery protocol information as empty, then waiting for a next cycle to begin, if all of said at least one slot in the communications system apparatus have been discovered;

means for determining whether said discovery protocol data package corresponds to said at least one internal occupant, if one of said at least one slot in the communications system apparatus has not been discovered

means for determining whether said discovery protocol data package is consistent with a discovery protocol data package previously obtained, if the said discovery protocol data package corresponds to said at least one internal occupant; and

means for launching a slot discovery, if said discovery protocol data package is not consistent with said previously obtained discovery protocol data package.

25. (Original) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for identifying internal occupants of a communications system apparatus with an Ethernet backplane and at least one internal occupant, said method comprising:

verifying that a system switch processor (“SSP”) has been assigned an IP address;

requesting a discovery protocol data package from said SSP;

determining whether said discovery protocol data package corresponds to said at least one internal occupant; and

if said discovery protocol data package corresponds to said at least one internal occupant, then discovering occupant information corresponding to said at least one internal occupant.

26. (Original) The program storage device of Claim 25, wherein said method includes the additional act of determining whether said at least one internal occupant is the last internal occupant in said apparatus.

27. (Original) The program storage device of Claim 25, wherein said method further includes after said query of determining whether said discovery protocol data package corresponds to said at least one internal occupant, the additional act of:

determining whether said at least one internal occupant has a valid IP address, if the discovery protocol data package corresponds to said at least one internal occupant.

28. (Original) The program storage device of Claim 25, wherein said method includes the additional act of populating a data table with said at least one internal occupant's information.

29. (Original) The program storage device of Claim 25, wherein said act of discovering occupant information corresponding to said at least one internal occupant further comprises:

determining whether said at least one internal occupant is a multiservice route processor;

discovering multiserver route processor information, if said at least one internal occupant is a multiservice route processor;

determining whether said at least one internal occupant is a system processing engine;

discovering system processing engine information from said at least one internal occupant, if said at least one internal occupant is a system processing engine; and

indicating an error for said at least one internal occupant if said at least one internal occupant is not a system processing engine.

30. (Withdrawn) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for identifying internal occupants of a communications system apparatus with an Ethernet backplane and at least one internal occupant, said method comprising:

requesting a link status from a SSP;

determining whether all of said at least one internal occupant in the communications system apparatus have been discovered;

waiting for next cycle if all of said at least one internal occupant in the communications system apparatus have been discovered;

determining whether said link status corresponds to said at least one internal occupant, if all of said at least one internal occupant in the communications system have not been discovered;

determining whether said link status is up and a slot corresponding to said link is not occupied, if said link status corresponds to said at least one internal occupant;

launching a slot discovery, if said link status is up and said slot corresponding to said link is not occupied;

determining whether the said link status is down and said slot corresponding to said link status is occupied, if the said link status is not up and the said slot is not occupied; and

identifying the said at least one internal occupant as non-operational, if the said link status is down and the said slot is occupied.

31. (Withdrawn) The program storage device of Claim 30, wherein said act of launching a slot discovery further comprises:

requesting a discovery protocol data package from said SSP;

the discovery protocol data package corresponds to said at least one internal occupant;

the said apparatus occupant has a valid IP address, if the discovery protocol data package corresponds to said at least one internal occupant;

said requested discovery protocol data package corresponds to said slot, if said at least one internal occupant has a valid IP address; and

discovering occupant information corresponding to said particular internal apparatus occupant, if the discovery protocol data package corresponds to said slot.

32. (Withdrawn) The program storage device of Claim 30, wherein said act of discovering occupant information corresponding to said at least one internal occupant further comprises:

- discovering whether said at least one internal occupant is a multiservice route processor;

- discovering multiservice route processor information from said at least one internal occupant, if said at least one internal occupant is a multiservice route processor;

- discovering whether said at least one internal occupant is a system processing engine, if said at least one internal occupant is not a multiservice route processor;

- discovering system processing engine information from said at least one internal occupant, if said at least one internal occupant is a system processing engine; and

- indicating an error for said at least one internal occupant if said at least one internal occupant is not a system processing engine.

33. (Withdrawn) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for cyclically identifying occupants a communications system apparatus with an Ethernet backplane and at least one internal occupant, said method comprising:

- requesting a discovery protocol data package from a SSP;

- determining whether all of said at least one slot in the communications system apparatus have been discovered;

- marking said at least one slot that have no discovery protocol information as empty, then waiting for a next cycle to begin, if all of said at least one slot in the communications system apparatus have been discovered;

- determining whether said discovery protocol data package corresponds to said at least one internal occupant, if one of said at least one slot in the communications system apparatus has not been discovered

determining whether said discovery protocol data package is consistent with a discovery protocol data package previously obtained, if the said discovery protocol data package corresponds to said at least one internal occupant; and

launching a slot discovery, if said discovery protocol data package is not consistent with said previously obtained discovery protocol data package.

34. (Withdrawn) The program storage device of Claim 33, wherein said act of launching a slot discovery further comprises:

requesting a discovery protocol data package from said SSP;

determining whether said discovery protocol data package corresponds to said at least one internal occupant;

determining whether said at least one internal occupant has a valid IP address, if the discovery protocol data package corresponds to said at least one internal occupant;

determining whether said discovery protocol data package corresponds to a slot housing said at least one occupant, if said at least one internal occupant has a valid IP address; and

discovering occupant information corresponding to said at least one internal occupant, if said discovery protocol data package corresponds to said slot.

35. (Withdrawn) The program storage device of Claim 33, wherein said act of discovering occupant information corresponding to said at least one internal occupant further comprises:

determining whether said at least one internal occupant is a multiservice route processor;

discovering multiservice route processor information from said at least one internal occupant, if said at least one internal occupant is a multiservice route processor;

determining whether said at least one internal occupant is a system processing engine, if said at least one internal occupant is not a multiservice route processor;

discovering system processing engine information from said at least one internal occupant, if said at least one internal occupant is a system processing engine; and

indicating an error for said at least one internal occupant if said at least one internal occupant is not a system processing engine.